pulsing region of the TOF mass analyzer for mass analysis. After the first fragmentation step, the ion guide potentials can again be set to select a narrow m/z range to clear the ion guide in trapping mode of all but a selected set of fragment ions. M/z selection and ion fragmentation can be repeated a number of times with mass analysis occurring at the end of all the MS/MSⁿ steps or at various times during the MS/MSⁿ stepwise process. Additionally, the normally stepwise MS/MSⁿ analysis function can be merged into a single step, increasing the effective duty cycle. In all embodiments, the ion guide can reside in one vacuum pumping stage or can extend continuously into more than one vacuum pumping stage.--

Remarks

Further to the Examiner's telephonic request of yesterday's date, a new Abstract is enclosed. As requested, the Abstract has been shortened to less than 250 words.

It is believed that no fees are required in connection with the present submission. However, should any fees be necessary, the Commissioner is hereby authorized to debit our

deposit account, Account No. 02-2105, for any amounts that may be required.

Dated: August 4, 1999

Respectfully submitted.

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CERTIFICATE OF MAILING (FACSIMILE TRANSMISSION)

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office at Facsimile Number 703-308-7721 on August 4, 1999.

Morris E. Cohen

Transmission Date: August 4, 1999